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Synthesis, Characterization, Thermal and Antibacterial Activity Study of Some Transition Metal Ions Mixed Ligand Complexes Using N-(1-(4-chlorophenyl)prop-2-ynyl)phenanthren-2-amine and Ciprofloxacin Ligands

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Abstract: This paper describes the preparation of new six metal-ion complexes of the ligand ciprofloxacin (L_1) and N-(1-(4-chlorophenyl)prop-2-ynyl)phenanthren-2-amine (L_2) with the metal ions Cr^{III} , Mn^{II} , Fe^{III} , Co^{II} , Ni^{II} and Cu^{II} which were prepared in alcoholic medium. Bidentate ligand $L_2 = N-(1-(4-chlorophenyl)prop-2-ynyl)phenanthren-2-amine$ was prepared by the reaction of phenanthren-1-amine with 4-chlorobenzaldehyde, in presence of KCN. The metal-ion complexes were prepared in absolute C_2H_5OH with stirring and characterized by the elemental micro analyses (CHN), chloride content, FT-IR, UV-visible spectroscopy and magnetic measurements, ^1H-NMR , $^{13}C-NMR$ spectrae, Thermal Gravimetric Analysis (TGA), as well as molar conductivity. According to the obtained data the possible shapes of the compounds were recommended as octahedral. a number of metal-ion complexes were establish to be weak electrolyses, others were set up as nonelectroly.

Keywords: quinolones (ciprofloxacin), N-(1-(4-chlorophenyl)prop-2-ynyl)phenanthren-2-amine, metal ions.

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